



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/588,618	08/07/2006	Seiichiro Noritake	SAS0033US	7124
23413 7590 08/01/2011 CANTOR COLBURN LLP 20 Church Street 22nd Floor Hartford, CT 06103				
EXAMINER WAITS, ALAN B				
ART UNIT 3656		PAPER NUMBER		
NOTIFICATION DATE 08/01/2011		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptopatentmail@cantorcolburn.com

Office Action Summary

Application No.

10/588,618

Applicant(s)

NORITAKE, SEIICHIRO

Examiner

ALAN WAITS

Art Unit

3656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 2, 4 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 464a and 464b.
2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "non-engagement state" in claim 2, lines 2 and 4, and claim 10, lines 2 and 4, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
3. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7, 8, 12, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7, lines 2 and 7, and claim 8, line 6, claim 12, lines 2 and 7, and claim 13, line 6 recite the limitation "thin plate part". The term "thin" is a relative term which renders the claim indefinite. The term "thin" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim 8, line 3, and claim 13, line 3 recite the limitation "the two parts". It is unclear if this limitation refers to the first rack part and the second rack part or some other parts.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tung U.S. 6,789,439 in view of Harvie U.S. 1,898,956.

Re clm 1, Tung discloses a motor actuator in which a driving force of a motor is transmitted to a driven member through a driving force transmission mechanism to operate the driven member, wherein, the driving force transmission mechanism comprises a gear train part (23, Fig. 2) having a gear (a part of gear train 23; col. 2,

lines 13-15) which is rotationally driven by the motor, a tooth-missing gear (14) which is rotationally driven by the gear, a rack member (13) which is linearly driven by the tooth-missing gear to operate the driven member, a tooth-missing gear part (14) and a teeth part (141) that is formed at a predetermined position of the tooth-missing part over only a part of the entire circumference in a circumferential direction of the tooth-missing gear, and a side area (area of teeth at edge of gear area 141) in the circumferential direction of the teeth part is formed with a move preventing part (teeth at edge) for preventing movement of the rack member (the teeth when engaged with rack 13 do not move out of meshing), the rack member is provided with a first rack part (the toothed part of 133) which causes the rack member to move in one direction to a first position when the motor rotates in one direction and the first rack part engages with the teeth part, and a second rack part (the toothed part of 134) which causes the rack member to move in the other direction to a second position when the member rotates in the one direction and the second rack part engages with the teeth part, the first rack part and the second part are extended in parallel to each other (as shown in Fig. 2) so as to interpose the tooth-missing gear between the first rack part and the second rack part, one end portion of the first rack part and one end portion of the second rack part are connected with each other through a connecting part (left end of 13), an other end portion of the first rack part and an other end portion of the second rack part are separated from each other (space between 133 and 134) so as to form a separated space between the other end portions of the first rack part and the second rack part, when the rack member is moved to one of the first position and the second position, the teeth part of the tooth-missing gear part

is rotated until the teeth part is separated from the first rack part and the second rack part (Figs. 3 and 4), and when the rack member is located at at least one of the first position and the second position, movement of the rack member is prevented by the move preventing part of the tooth-missing gear part (engaged teeth 141 prevent movement of 13 unless 14 is rotating, Fig. 4).

Tung does not disclose that the tooth-missing gear is provided with a gear part formed with teeth around an entire circumference and structured to engage wit the gear, and the gear is disposed on an opposite side to the connecting part with respect to the tooth-missing gear.

Harvie teaches a driving force mechanism comprising a tooth-missing gear (25 and 27, Fig. 4) being provided with a gear part (27) formed with teeth around an entire circumference and structured to engage with the gear and the gear is disposed on an opposite side (27 is disposed opposite the reciprocating arm 132, Fig. 1 in Tung and 23, Fig. 1 in Harvie) to the connecting part with respect to the tooth-missing gear.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Tung and provide that the tooth-missing gear is provided with a gear part formed with teeth around an entire circumference and structured to engage wit the gear, and the gear is disposed on an opposite side to the connecting part with respect to the tooth-missing gear for the purpose of driving the tooth-missing gear, as suggested by Harvie.

Tung in view of Harvie would necessarily provide that the gear is engaged with the gear part of the tooth-missing gear through the separated space (location of 27 of Harvie would be in the separated space of Tung, Fig. 2).

Re clm 2, Tung further discloses that the tooth-missing part is in a non-engagement state with the second rack part when the tooth-missing gear part engages with the first rack part and the tooth-missing gear part is in a non-engagement state with the first rack part when the tooth-missing gear part engages with the second rack part (Figs. 3 and 4).

Re clm 4, Tung further discloses that the rack member is provided with a pair of inner side portions (133 and 134, Fig. 2) between which the gear is disposed and which are extended in parallel to each other, and the first rack part is formed in one of a pair of the inner side portions and the second rack part is formed in the other of a pair of the inner side portions.

8. Claim 6 and 9-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tung U.S. 6,789,439 in view of Harvie U.S. 1,898,956 as applied to claim 1 above, and further in view of JP 2000-320955.

Tung in view of Harvie discloses all the claimed subject matter as described above.

Re clm 6 and 9, Tung does not disclose that the driven member is an opening/closing member whose position is changed between an open position and a close position by the rack member, and when the rack member is located at the first position, the opening/closing member is located at the open position and, when the rack

member is located at the second position, the opening/closing member is located at the close position.

JP 995 teaches a gear and rack mechanism such that the driven member (9, Fig. 2) is an opening/closing member whose position is changed between an open position and a close position by the rack member, and when the rack member is located at the first position, the opening/closing member is located at the open position and, when the rack member is located at the second position, the opening/closing member is located at the close position (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the driving mechanism of Tung in known devices such as opening and closing mechanism to linearly actuate the opening and closing mechanism, as taught by JP 995.

Re clm 10, Tung further discloses that the tooth-missing part is in a non-engagement state with the second rack part when the tooth-missing gear part engages with the first rack part and the tooth-missing gear part is in a non-engagement state with the first rack part when the tooth-missing gear part engages with the second rack part (Figs. 3 and 4).

Re clm 11, Tung further discloses that the rack member is provided with a pair of inner side portions (133 and 134, Fig. 2) between which the gear is disposed and which are extended in parallel to each other, and the first rack part is formed in one of a pair of the inner side portions and the second rack part is formed in the other of a pair of the inner side portions.

Response to Arguments

9. Applicant's arguments filed 7/2/2010 have been fully considered but they are not persuasive.

Applicant argues that Tung does not disclose "a side area in the circumferential direction of the teeth part is formed with a move preventing part". The limitation is board enough to incorporate the teeth at the outer circumferential periphery of the toothed part of 141 in Fig. 2.

Allowable Subject Matter

10. Claims 7, 8 12 and 13 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN WAITS whose telephone number is (571)270-3664. The examiner can normally be reached on Monday through Friday 7:30 am to 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alan B Waits/
Examiner, Art Unit 3656

/Thomas R. Hannon/
Primary Examiner, Art Unit 3656